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10/785,618	02/23/2004	Christopher M. Look	6518P009	2967

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EXAMINER

LEUNG, WAI LUN

ART UNIT	PAPER NUMBER
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2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/785,618	Applicant(s) LOOK, CHRISTOPHER M.	
	Examiner Danny Wai Lun Leung	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/13/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 10 and 11 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 11 depends upon claim 10, and claim 10 depends upon claim 8. Claims 11 and 10 both claims a machine-accessible medium, while claim 8 is a method claim.

Applicant may intend for claim 10 to be depended on claim 9.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "The machine-accessible medium of claim 8". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Feinberg et al.** (*US006556319B2*), in view of **Gerstel et al.** (*US006898376B1*).

Regarding claims 1 and 9, **Feinberg** discloses a machine-accessible medium that stores instruction which, if executed by a processor (*520, fig 5*), will cause the processor to perform a method comprising: splitting an incoming optical signal into a first and a second optical signals (*splitter 160, splitting customer data in, fig 1b*); sending the first and the second optical signals to a first and a second equipments in an optical network node, respectively (*108A and 108B in node on the right, fig 1b*), the second equipment being a protection module for the first equipment (*col 3, ln 63-col 4, ln 7*); monitoring an outgoing optical signal (*photodiode 515 monitors outgoing optical signal from the switch 510, which relay signals from either the service path or the protection path, fig 5*) and declaring a failure of the optical network node if only one of the first and the second outgoing optical signals has failed (*col 8, ln 37-43*).

Feinberg does not disclose expressly for the monitoring to monitor both a first and a second outgoing optical signals from the first and second equipments.

Gerstel, from the same field of endeavor, teaches a method comprising: splitting an incoming optical signal into a first and a second optical signals (*col 2, ln 65-col 3, ln 3*); sending the first and the second optical signals to a first and a second equipments in an optical network node respectively (*equipments 60 and 78 in node 51, fig 2a*); and monitoring a first and a second outgoing optical signals from the first and second equipments (*processor 62 monitor signal T1, col 3, ln 23-45; processor 80 monitors signal T2, col 3, ln 64-col 4, ln 15*). Therefore, it would

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have been obvious for a person of ordinary skill in the art at the time of invention to monitor both of **Feinberg's** first and second outgoing optical signals from the first and second equipments as taught by **Gerstel**. The motivation for doing so would have been to enhance protection by ensuring connectivity over both the service and protection links.

As to claims 4 and 12, **Feinberg** further teaches declaring a failure outside of the optical network node if both the first and second optical signals have failed (*NMS is notified when a failure on the protection path is determined, col 8, ln 7-15*).

As to claim 5, **Feinberg** further teaches amplifying the first and the second optical signals at the first and second equipments, respectively (*col 8, ln 48-52*).

As to claim 6, **Feinberg** further teaches wherein each of the first and second equipments comprises a wavelength switch module (*OXC 384 and 376, fig 3*).

As to claim 6, **Gerstel** further teaches wherein each of the first and second equipments comprises a wavelength switch module (*OLT 58 can be considered as a wavelength switch module, since it includes transponders for receiving optical signals at different wavelengths, col 3, ln 56-63*).

As to claim 7, **Gerstel** further teaches wherein each of the first and second equipments further comprises a multiplexer and a de-multiplexer (*col 3, ln 56-63*).

As to claim 8, **Feinberg** further teaches wherein each of the first and second equipments further comprises a plurality of amplifiers (*col 8, ln 48-52*).

As to claims 2 and 10, **Feinberg** further discloses bypassing the first optical equipment if the first optical signal has failed and the second optical signal has not failed (*col 8, ln 36-43*); and bypassing the second optical equipment if the first optical signal has not failed (*col 8, ln 31-36*).

The combination of **Feinberg and Gerstel** does not disclose expressly bypassing the second optical equipment if the second optical signal has failed. However, **Feinberg**, further teaches switching to an *appropriate protection path* upon detection of a failure (*col 8, ln 58-61*).

Furthermore, *it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ70*. Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to bypass the second optical equipment if the second optical signal has failed and the first optical signal has not failed, since the first optical signal path would be an appropriate path to transmit the optical signal when a failure in the second optical path is detected in **the combination of Feinberg and Gerstel's** system. The motivation for doing so would have been to convey information using the most appropriate protection.

As to claims 3 and 11, **Gerstel** further discloses sending an alarm if either the first or the second optical signal has failed (*col 3, ln 22-25; col 3, ln 65-66*).

6. Claims 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bala et al.** (*US6307653*), in view of **Sato** (*US006477288B1*).

Regarding claim 13, **Bala** discloses an apparatus (*fig 2*) comprising: a first optical equipment (*100, fig 2*) in an optical network device having a first plurality of input ports (*input ports of 110-1, 110-2, 110-N, fig 2*) and a first plurality of output ports (*output ports of 120-1, 120-2, 120-N, fig 2*); a second optical equipment (*210 with 212, fig 2*) in the optical network device having a second plurality of input ports and a second plurality of output ports (*inputs port of 210 and output ports of 212, fig 2*), the second optical equipment being a protection module of the first optical equipment (*col 3, ln 48-57*); a plurality of optical signal splitters (*220-1, 220-2,*

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220-N, *fig 2*; *col 4, ln 55-57, and col 5, ln 6-9 described that these could be splitters*), each of the plurality of optical signal splitters coupled to one of the first plurality of input ports and one of the second plurality of input ports, to split an incoming optical signal into a first and a second optical signals and to input to the first and the second optical equipments, respectively (*col 3, ln 58-67*); and a plurality of optical signal switches (*230-1, 230-2, 230-N, fig 2*), each of the plurality of the optical signal switches coupled to one of the first plurality of output ports and one of the second plurality of output ports, to select a first output optical signal from the first optical equipment or a second output optical signal from the second optical equipment (*col 4, ln 5-12*).

Bala does not disclose expressly wherein the plurality of optical signal switches are switched together substantially simultaneously. **Sato**, from the same field of endeavor, teaches an optical line switching system having a plurality of optical signal switches that are switched together substantially simultaneously to perform optical protection (*col 4, ln 47-55*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to switch **Bala**'s plurality of optical signal switches simultaneously as suggested by **Sato**. The motivation for doing so would have been to minimize errors by switching all of the transmission signal to the protection module at the same time.

As to claim 19, **Sato** further teaches that such an apparatus as discussed above regarding claim 13 may be used in a system (*fig 16*) comprising: a plurality of optical fibers (*1A, 1B, 2A, 2B, fig 16*); and a plurality of optical nodes coupled to each other (*Na, N2, N3, N4, N5, fig 16*) via the plurality of optical fibers, each of the plurality of optical nodes comprising the apparatus as discussed above regarding claim 13. Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to implement the apparatus as discussed above

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regarding claim 13 onto an optical system comprising a plurality of optical fibers and optical nodes as suggested by **Sato**. The motivation for doing so would have been to be able to apply the protection scheme onto an optical transmission system.

As to claims 14, 15, 20, and 21, **Bala** further teaches wherein the optical signal switch selects the second output optical signal from the second optical equipment if the first output optical signal from the first optical equipment fails and the second output optical signal from the second optical equipment has not failed (*col 4, ln 13-22*), and it would have been obvious to select the first output optical signal from the first optical equipment if the second output optical signal from the second optical equipment fails and the first output optical signal from the first optical equipment has not failed, *since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ70.*

As to claims 16 and 22, **Sato** further teaches wherein each of the first and the second optical equipment includes a wavelength switch module (*optical signal processing devices 11 and 12 provides add/drop function, and may also have cross-connect functionality over different wavelengths, col 7, ln 46-59*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to include a wavelength switch module onto **the combination of Bala and Sato's system** as suggested by **Sato**. The motivation for doing so would have been to detect line faults in different wavelengths.

As to claims 17 and 23, **Sato** further teaches wherein each of the first and the second optical equipment further includes a multiplexer and a demultiplexer (*optical signal processing devices 11 and 12 has multiplexing/demultiplexing function, col 7, ln 46-53*).

As to claims 18 and 24, **Sato** further teaches wherein each of the first and the second optical equipment further includes a plurality of amplifiers (26, 27, 28, 29, *fig 1A; col 8, ln 24-33*). Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to include a plurality of amplifiers onto **the combination of Bala and Sato's** system as suggested by **Sato**. The motivation for doing so would have been to compensate for any anticipated signal attenuation over transmission loss (*Sato, col 8, ln 38-40*).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Wai Lun Leung whose telephone number is (571) 272-5504. The examiner can normally be reached on 9:30am-9:00pm Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DWL
01/19/07


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PRIMARY EXAMINER